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## Editorial

# Is there adequate evidence to encourage early feeding in patients with acute esophageal variceal bleeding?



Acute esophageal variceal bleeding (EVB) is a major consequence of liver cirrhosis. However, the typical outcome of acute EVB has improved since the onset of the use of modern standard treatment, including early vasoactive agents, antibiotic prophylaxis, and endoscopic treatment.<sup>1</sup> Nonetheless, EVB is still characteristic of a high rebleeding rate of approximately 20% and 40% bleeding-related mortality in patients with liver cirrhosis.<sup>2,3</sup> This underscores the fact that consecutive improvement of patients' medical management is required.

The correct targeted timing of feeding following endoscopic treatment of gastrointestinal bleeding is an important issue, where some observers have wondered whether early feeding influenced the outcomes of early rebleeding. A previous study found that there was no difference in rebleeding rates between early- and late-feeding patients with low-risk peptic ulcer bleeding.<sup>4</sup> However, the impact of feeding after endoscopic treatment of EVB has rarely been investigated.<sup>5</sup>

Adequate feeding is necessary to prevent catabolic disadvantage in relatively malnourished cirrhotic patients.<sup>6</sup> Dietary protein restriction should be avoided in patients with cirrhosis, except possibly for a very short period in patients with gastrointestinal bleeding while undergoing stabilization.<sup>7</sup> However, theoretically, oral feeding may cause postprandial hyperemia of mesenteric circulation and, in turn, lead to an increase of portal pressure, which is the primary mechanism of variceal rupture. Moreover, it is also possible that oral feeding may irritate the sloughing wound on varices after endoscopic ligation (EVL). Therefore, it is reasonable to hypothesize that early feeding may increase early rebleeding after EVL in patients with EVB. However, can the bench concept be really translated into a clinical scenario?

We were excited to have the chance to read the study conducted by Lo et al,<sup>8</sup> where the authors intended to determine whether early versus delayed feeding following EVL can improve hemostatic outcomes of patients with acute EVB. All their patients followed the current consensus/guideline for the treatment of acute EVB. They randomized 36 patients into an early-feeding group after fasting for 4 hours following EVL, and 34 patients into a delayed-feeding group after fasting for 48 hours following EVL. They found that very

early rebleeding was not encountered in both groups. The authors concluded that early feeding with a liquid diet after successful endoscopic therapy of bleeding varices did not have any impact on hemostasis, but it can reduce the duration of hospital stays. However, some criticism is in order subsequent to a meticulous reading of this article. First, the authors proposed a 5-day hemostatic rate as low as 65% for sample size calculation, although the rate was different from their previous study.<sup>9</sup> It also contradicts the 5-day hemostasis rate in the current study, which is 100%. However, the inappropriate calculation of sample size was destined to lead to no statistically significant difference. Second, low-risk varices such as small varices in patients with good hepatic reserve rarely rebleed. If early feeding had any impact, it was confined to high-risk varices, which were not clarified in the current study. Third, the postprandial hyperemia was likely minimized by somatostatin or terlipressin, which is known to reduce mesenteric blood inflow.<sup>10</sup> Therefore, the impact of feeding on mesenteric flow and portal pressure became less prominent when we used a combination of vasoactive agents, following the standard treatment guideline. Fourth, the criteria for patient discharge were not precisely defined and appeared subjective; therefore, it was not a convincing parameter to ascertain the difference.

In conclusion, the current study provided insufficient evidence to either encourage or discourage early feeding. Nevertheless, the current study provided certain valuable information. First, the strategy for acute EVB management recommended by the International Consensus should be followed, which can lead to improved hemostatic outcomes. Additionally, timing of feeding is an important issue for patients with acute EVB. Furthermore, consecutive improvement of medical management of gastroesophageal variceal bleeding is mandatory to providing optimal patient outcomes. Further studies with a large sample size, which include high-risk patients, are required. Prior to reporting the consolidated data, timing of feeding may be individualized based on the status of encephalopathy, comorbidity of patients, initial extensiveness of ligation, potential of treatment failure/rebleeding, and probably the patient's will after discussion with his or her medical provider.

## Conflicts of interest

The authors declare that there are no conflicts of interest related to the subject matter or materials discussed in this article.

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Ming-Chih Hou\*

*Endoscopy Center of Diagnosis and Treatment, Taipei Veterans General Hospital, Taipei, Taiwan, ROC*

*Department of Medicine, National Yang-Ming University, Taipei, Taiwan, ROC*

\*Corresponding author. Dr. Ming-Chih Hou, Endoscopy Center of Diagnosis and Treatment, Taipei Veterans General Hospital, 201, Section 2, Shih-Pai Road, Taipei 112, Taiwan, ROC.

*E-mail address:* [mchou@vghtpe.gov.tw](mailto:mchou@vghtpe.gov.tw) (M.-C. Hou).